Pi in the Sky

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The Apple II is one of many computers released in the late 1970s and early 1980s that encouraged creation, experimentation, and learning. The accessibility of those machines led millions of people to interest in programming and hardware engineering. But today's computers and tablets generally don't lend themselves to the same kinds of creative experimentation. Without hardware you can access or an inbuilt programming language, modern machines are more suitable for consuming than creating.

That's why I'm excited about the Raspberry Pi 400, a computer released in November 2020 by the Raspberry Pi Foundation charity. I got one for Hanukkah and am thrilled with it. It's a modern computer that ticks a lot of the boxes as the Apple II.

First, the Pi 400's design is a throwback to the old-school "keyboard with a computer inside" aesthetic. A slim wedge that sits on a desk, just plug in the power and a monitor and you're good to go. Like the Apple II, its design encourages users to add software, or better, program their own using inbuilt computer languages like python. The Pi 400's GPIO (general purpose input/output) port, accessible at the back of the keyboard, allows experimenters to connect components or build their own. That alone makes the Pi 400 more like an Apple II, with its easily accessible slots, than any modern computer. Want to try building a punch card reader, motion sensor, or control electronics? Go for it.

Best of all, the Pi 400 costs $100—inexpensive enough that schools could outfit a lab full of them with bake sale proceeds. And inexpensive enough that kids of all ages can feel free to experiment with the hardware without fear that they will harm expensive gear.

Despite it being small and cheap and not very powerful—or, no, *because* of those things—the Raspberry Pi 400 is the most exciting development for computer hobbyists in decades, and I hope that it will inspire the next generation of programmers and hackers, just like the Apple II did.

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